



Docket No.: 244209US67

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313



RE: Application Serial No.: 10/713,045
Applicants: Christopher ALBRIGHT
Filing Date: November 17, 2003
For: MIXING APPARATUS WITH NON-SYMMETRICAL
SIDES
Group Art Unit: 1723
Examiner: SORKIN, D.

SIR:

Attached hereto for filing are the following papers:

**Declaration Under 37 C.F.R. § 1.131 with Exhibits A, B, C, and D
Information Disclosure Statement
PTO-1449**

Cited Reference (1)

Our credit card payment form in the amount of \$0.00 is attached covering any required fees. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 15-0030. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Philippe J.C. Signore

Registration No. 43,922

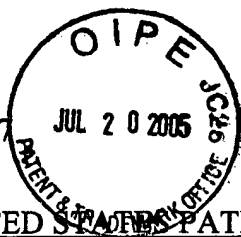
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DOCKET NO: 244209US67



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
CHRISTOPHER ALBRIGHT : EXAMINER: SORKIN, D.
SERIAL NO: 10/713,045 :
FILED: NOVEMBER 17, 2003 : GROUP ART UNIT: 1723
FOR: MIXING APPARATUS WITH NON- :
SYMMETRICAL SIDES

DECLARATION UNDER 37 C.F.R. § 1.131

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

I hereby declare that I am the inventor of the above-referenced patent application. I furthermore declare the following facts to be true:

(1) I am an employee of Kuhn Knight Inc. in Brodhead, WI, the assignee of this patent application;

(2) On August 28, 2003, I conceived the invention claimed in this patent application as evidenced by the drawing of a straight sided single auger enclosed herein as Exhibit A;

(3) On September 2, 2003, under internal project No. 041, a request for building a prototype of the invention was submitted as evidenced by the two computer aided drawings enclosed herein as Exhibit B;

(4) On September 18, 2003, performance tests were conducted for the prototype of this invention to do initial test runs of a 5127 Single Vertical mixer, or Verti-Max, in various materials to see processing/mixing ability of the unit, along with Horsepower requirements

and other characteristics at the Spring Grove Dairy in Brodhead WI as evidenced by the Research and Development Test Report enclosed herein as Exhibit C; and

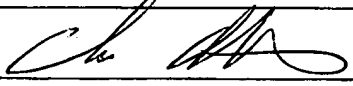
(5) As described in the first bullet point of the conclusion on page 2 of Exhibit C, the tested design had "differing side angles." These different side angles can be seen from the shapes of the sidewalls in Exhibits A and B.

(6) Thus, by September 18, 2003, the invention of at least Claims 1 and 7 had been reduced to practice on my behalf.

(7) On October 2, 2003, I attended the Dairy Expo in Madison, WI, where I saw a single auger Supreme Mixer with what appeared to be a mixer with one straight side and one side that was slightly tipped out. On October 6, 2003, I prepared and signed the statement enclosed herein as Exhibit D.

Based on the above-noted facts, I declare that conceived and reduced to practice by building and testing a prototype of the invention claimed in this application prior to having seen the third-party model in the Dairy Expo meeting as herein indicated.

I further declare that all statements made herein of my knowledge are true and that all statements on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by a fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 6-29-05
By: 

Christopher Albright

STRAIGHT SIDED SINGLE AUGER

8/28/03
P. B. B. B.
8/28/03

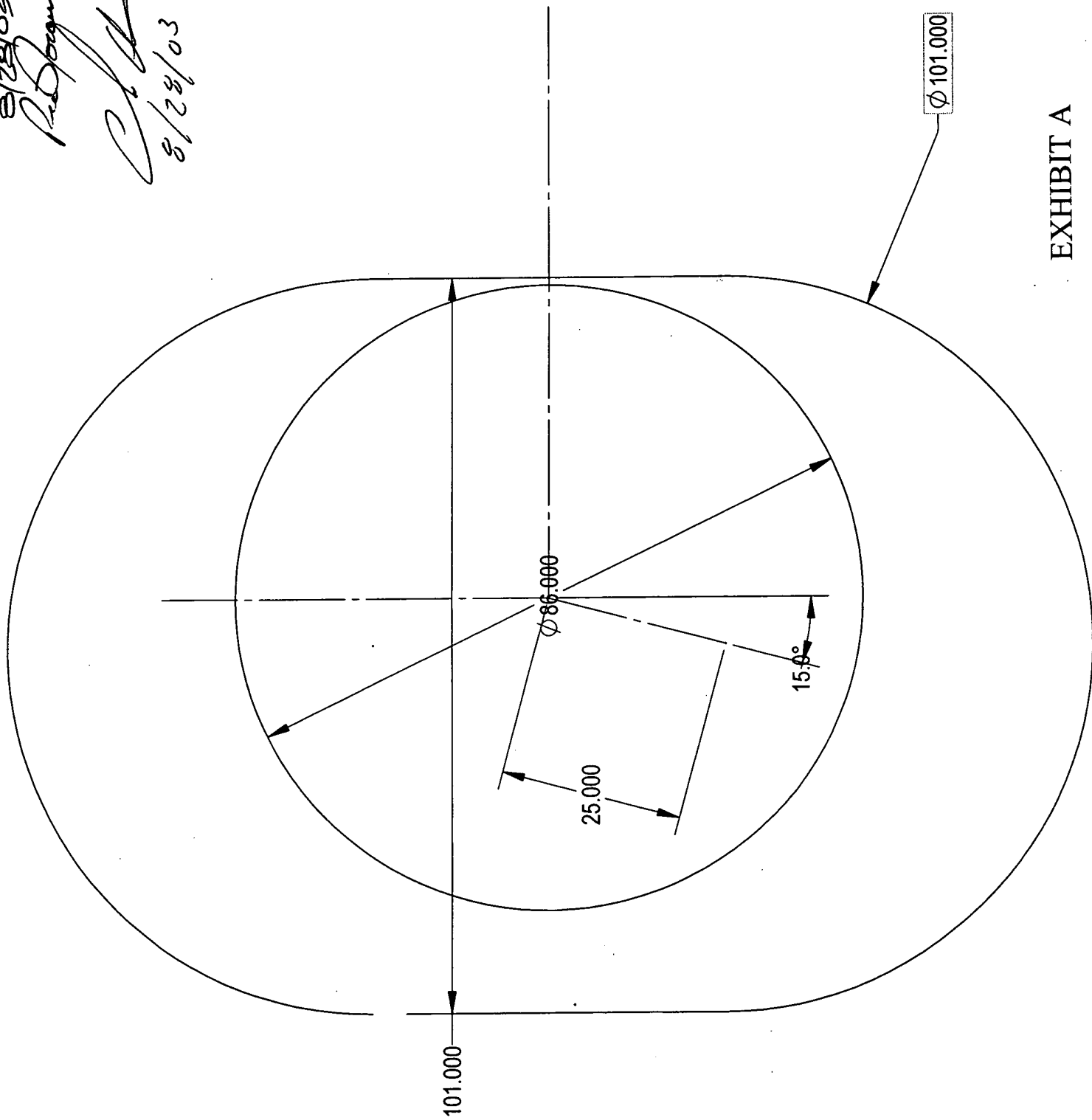
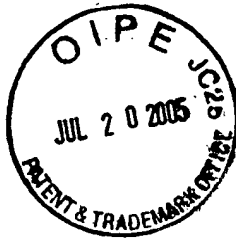


EXHIBIT A

DWG. NO. 270offsetside

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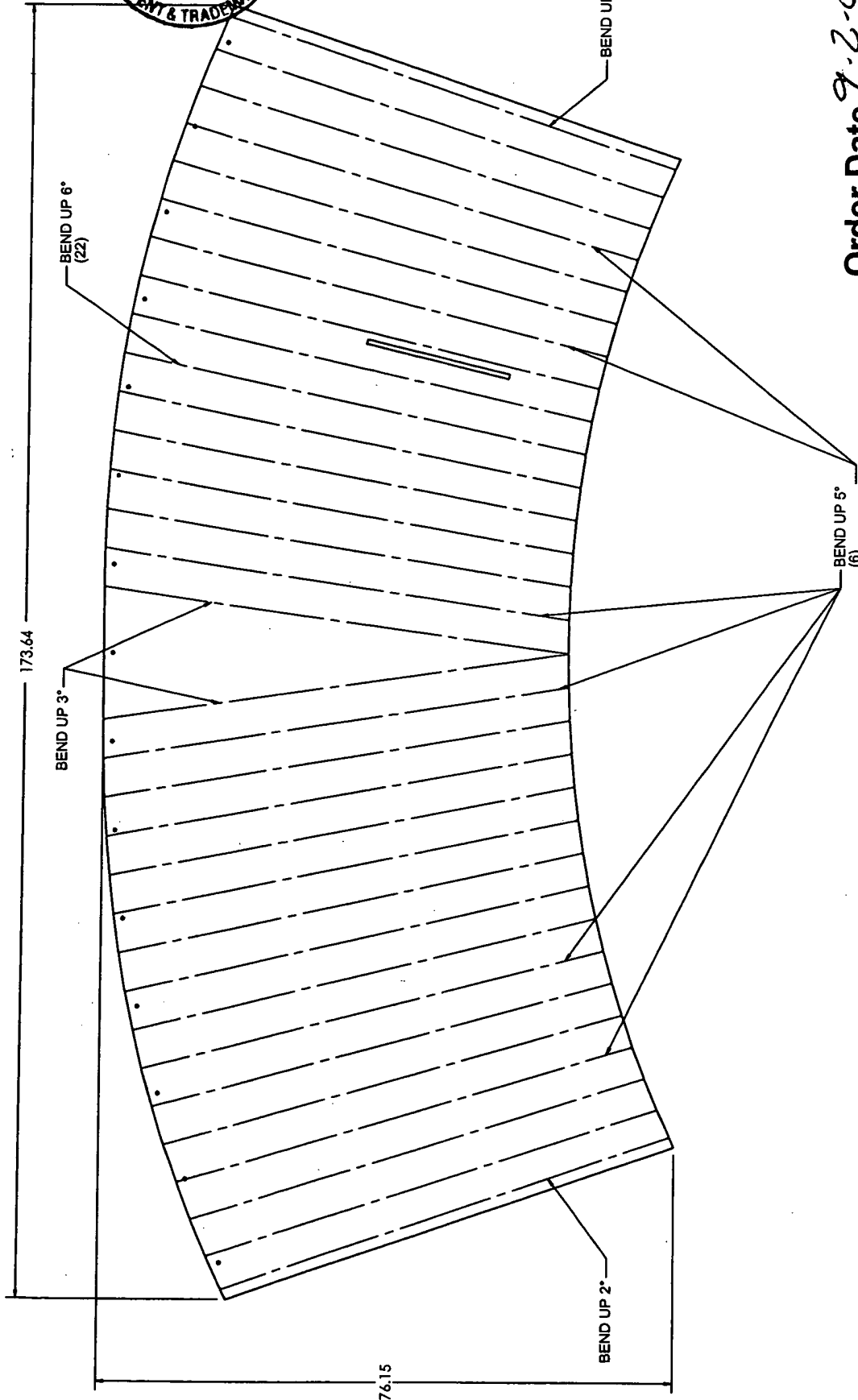
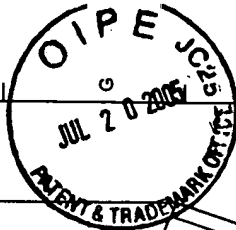
E

D

C

B

A



Order Date 9-2-03
Due Date
Quantity 1
Project 041

NOTES:
1. () ARE USED TO NOTE REFERENCE ONLY.

KUHN KNIGHT INC. BRODHEAD, WI

SHEET, 7GA x 76.15 x 173.64

UNLESS OTHERWISE SPECIFIED, USE KUHN KNIGHT MANUFACTURING STANDARDS.

PROTOTYPE - NOT FOR PRODUCTION
DISCARD DRAWING AFTER EACH USE

MATERIAL: 180-220
DRAWN: CJA
SCALE: 1:20
DWG. NO. 270offsetside

REV. 1

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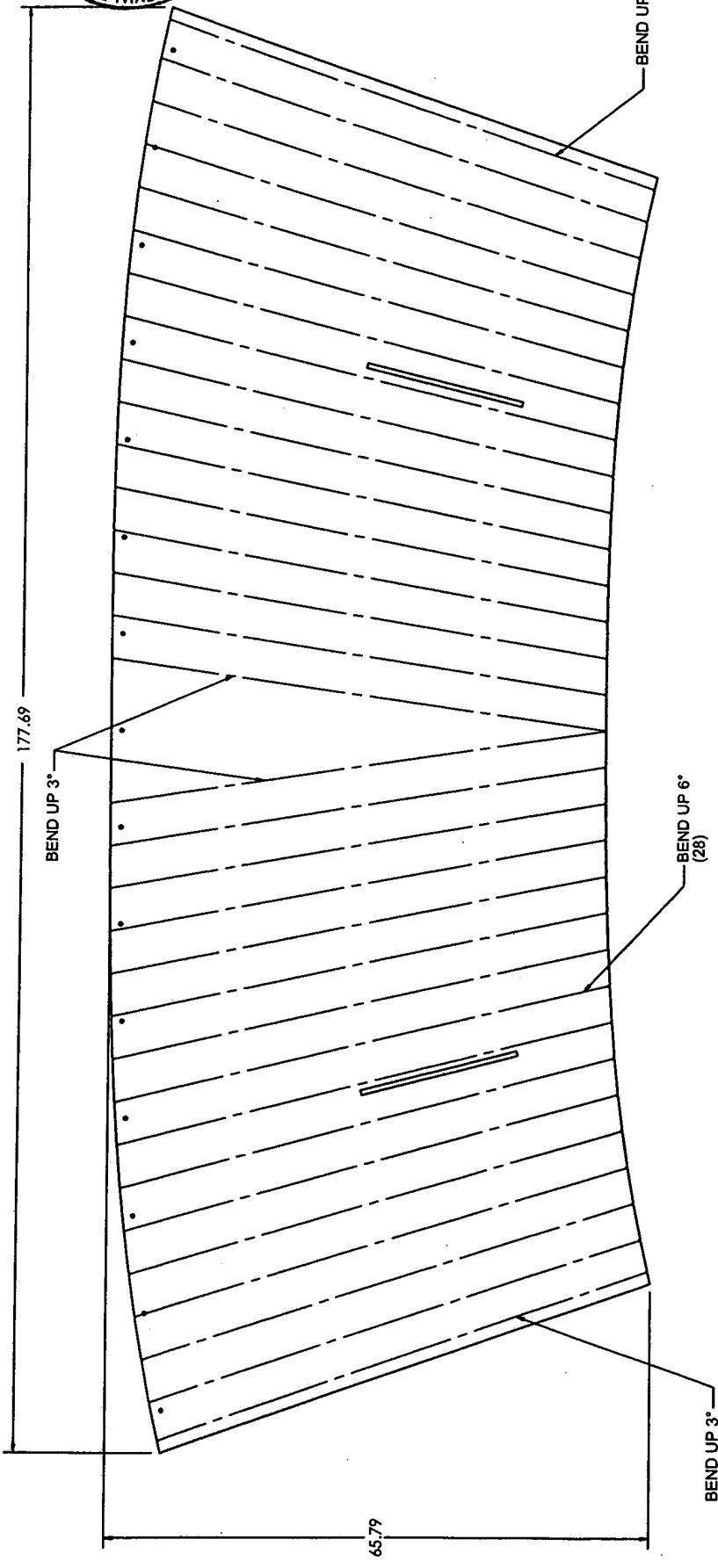
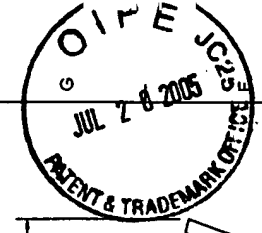
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DWG. NO. 270offsetside2

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Order Date 9-2-03
Due Date
Quantity 1
Project 041

NOTES:
1. () ARE USED TO NOTE REFERENCE ONLY.

KUHN KNIGHT INC. BRODHEAD, WI

SHEET, 7GA x 65.79 x 177.69

MATERIAL: 180-220 CJA 1:20
DRAWN: CJA
SCALE: 1:20
DWG. NO. 270offsetside2
REV. 11 X 5 8

UNLESS OTHERWISE SPECIFIED, USE KUHN KNIGHT MANUFACTURING STANDARDS.
**PROTOTYPE - NOT FOR PRODUCTION
DISCARD DRAWING AFTER EACH USE**

10 9 8 7 6 5 4 3 2 1
SHEET 1 of 1



EXHIBIT C

KNIGHT MANUFACTURING CORP.

Research & Development Test Report

200 5127 Proto –
Report Number: Ver 1 Test Number: Test #1/#2 – Ver 1

Subject: Initial test results of 5127 Single Vertical mixer
Verti-Max

Requested By: Team Date: Written By: Tim O. Date: 9/25/03

Initial Start Time: Date: 9/18/03 Completion: Tim/Mike Date:

Comments(Weather; Etc.):

General Test Information

Business Name: Spring Grove Dairy Phone: (608) 897-3180

Name: Contact: Dan Monson

Address: Brodhead, WI Implement Model: 5127

Tractor Model: IH 1566 Loader Model: Test Computer: somat

Video & Photos: Date/Time: Video was taken

Objective: • To do initial test runs of 5127 mixer in various materials to see processing / mixing ability of unit, along with HP and other characteristics.

Parameters: • Proto 5127 Mixer:

- 540 rpm drive
- right hand discharge, 39" tall door, 30" wide
- right side set out at 10 degrees off of vertical, left side straight
- single auger – 5073 auger with 2 unloading kickers tested
 - Kuhn 70 series auger with 1 unloading kicker tested
- 29 auger RPM
- 2' chain/slat production style conveyor used
- Unit weight – empty total: 5110 lbs empty tongue: ????
- Unit weight (with load of 3970 in mixer) total – 9080 lbs
 - Loaded tongue weight – 1340 lbs (14.6%)
- No hay retention tested on initial loads.

Results: • Load 1 – Tested 5073 auger (7 large KKI knives in "out" position)

- loaded appr. 1200 lb bale of wet round baled wheat-hay
- mixer running at just under PTO speed
- spilled appr. 400 lbs of hay, quite extensive spillage– it appeared that the upper flighting and knives of the auger would not allow the hay to drop and be processed.
- Did not get HP readings of mixing or processing
- Mixed waste corn silage with hay to appr. 4500 lbs - mix time was

appr. 10 minutes. Did mix without dead spots, but feed did not want to readily “drop” along sides – appeared that the upper flighting is holding feed “up” and carrying feed excessively around the mixer.

- Unloaded that amount of mix in appr. 1 minute.
- Also mixed a load of wet corn silage only – did see more feed “drop” and downward movement along straight left side of mixer vs. right side – but still had all feed mixed – no dead spots in mixer.
- Did see a spot over the center of the auger tube area that does not mix well (dead zone – no flighting) – and was more apparent in smaller mixer than a larger 5073.

- **Load 2** - Tested Kuhn 70 series auger (from 1270) – 5 large knives
 - 1260 lb bale of wet, round bale wheat-hay
 - at just over $\frac{3}{4}$ rated PTO speed, spilled appr. 180 lbs. hay with very good hay movement down into lower part of auger. (much better appearance than 5073 auger)
 - processed bale in appr. 10 minutes
 - unloaded that processed hay in 2.5 minutes
 - mixed in wet cornsilage to 4900 lbs. total – mix time: 3.5 minutes
 - unloaded total mix – 1 minute, 14 seconds
 - Overall, this auger style worked more favorably than 5073 with the only major difference being the size and configuration of the top flight – mixing action looks more “controlled” and feed bubbles vs. racing around. **Can see feed dropping and moving downward along sides.**
 - Less aggressive lead flight pitch appears to slow unloading slightly
- **Load 3** – Tested Kuhn 70 series auger (from 1270) – 5 large knives
 - 800 lb dry grass round bale – very “fluffy”
 - at just over $\frac{3}{4}$ rated PTO speed, spilled appr. 30 lbs hay
 - processed bale in 8.25 minutes (hay stops all “IN” at top setting)
 - mixed in wet cornsilage to 4000 lbs total – stuck level – nothing spilled while mixing
 - mix time – 10.9 minutes
 - unload time – 1.04 minutes
 - this load took longer to process and mix due to the very dry and fluffy nature of the all grass hay.
 - Process HP – 6.1 HP Mix HP – 35.2 HP
 - Unloaded – 90 lbs feed remaining on auger flighting (due to auger speeds).

- Conclusion:**
- At this point the differing side angles don’t seem to be hurting feed movement or mixing – though a difference can be seen from side to side as far as how the feed moves and “drops”.
 - Unloading of straight hay or mixed material is very fast for its size – large door helps
 - HP readings are very reasonable
 - Auger speed is an issue as far as final cleanoff of the auger – is 90 lbs left on auger too much?
 - Auger configurations that need to be looked at and tested–
 - need to incorporate the smaller diameter upper auger flighting of the

Kuhn auger

- need to incorporate the “kicked up” top flight as seen on the Kuhn auger - if possible – it helps in keeping the hay and feed moving in the center of the mixer.
- May need to incorporate the KKI style lead flight as it is slightly more aggressive (plus we cannot easily form a lead flight like the Kuhn auger has).
- Need to test KKI knives
- Test the stepped flighting vs. continuous welded? Patent issues?
- Need to run the smaller diameter auger tube as seen on the Kuhn auger.
- Need to test the outside lead flight scraper bar that is used on KKI augers.

Recommendations: • Continue with testing of this mixer.

Notes:

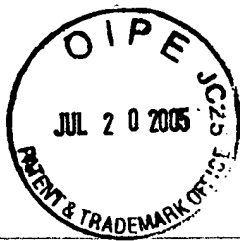


Exhibit D

WORLD DAIRY EXPO OCTOBER 2, 2003

WENT TO THE SHOW IN MADISON, WI
SAW A SINGLE AULER SUPREME
MIXER WITH WHAT APPEARED TO
BE A MIXER WITH ONE STRAIGHT
SIDE AND ONE SIDE THAT WAS
SLIGHTLY TIPPED OUT.

Ch
10-6-03